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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,572	07/28/2000	Haixiang Liang	1005-0017	2338
22120	7590	10/20/2004	EXAMINER	
ZAGORIN O'BRIEN & GRAHAM, L.L.P.			FAN, CHIEH M	
7600B N. CAPITAL OF TEXAS HWY.			ART UNIT	
SUITE 350			PAPER NUMBER	
AUSTIN, TX 78731			2634	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



Office Action Summary

Application No.

09/627,572

Applicant(s)

LIANG, HAIXIANG

Examiner

Chieh M Fan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11132000, 11212000, 12192000, 03022001</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 11/13/2000 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. However, the examiner is able to obtain copies of the references listed in items AA-AK and AR-AT. The references listed in item AP and AQ are not considered.
2. The IDS filed 12/19/200 erroneously listed the document WO99/65156 as WO99/56156 in item AN. It is further noticed that the reference WO99/65156 is also listed in item AP of the IDS filed 3/02/2001. Therefore, the reference listed in item AN of the IDS has been crossed out.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-20, 25-32, 34-38 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-14, claim 1 recites the limitation "the particular phases" in the last line. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 15-20, 25, 26, and 28-31, it is not clear what the limitation "the set of amplitude estimates" in line 2 of claim 15 is referred to.

Regarding claim 27, it is not clear what the limitation "the set of amplitude estimates" in line 2 of claim 27 is referred to.

Regarding claims 34-38, the limitation "calculates a difference between the set of amplitude estimates and a set of corresponding amplitude estimates" in lines 2-3 of claim 34 is not understood (emphasis added). Further, the limitation "the particular phase" in line 4 of claim 35 lacks of antecedent basis.

Regarding claim 40, the scope of the limitation "other" recited in lines 3 and 4 cannot be determined and is therefore indefinite. The applicant is also invited to indicate which portion of the specification that supports the limitations of claim 40.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 14, 21, 23, 33, and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Eyuboglu et al. (U.S. Patent No. 5,875,229, listed in the IDS filed 11/13/2000, "Eyuboglu" hereinafter).

Regarding claim 14, Eyuboglu teaches a communications system susceptible to one or more potential impairments, a method of categorizing N phases of a received sequence of amplitude estimates according to impairments present therein, the method comprising: organizing the received amplitude estimates into the N phases (col. 11, line 1, that is N=24; also see 920 in Fig. 9), wherein N is selected such that each potential impairment, if present, is periodic therein; and for each of the N phases, comparing one or more sets of amplitude estimates thereof to respective one or more sets of the amplitude estimates of other phases of the N phases to categorize the N phases into one or more groups according to similarity of the impairments, if any, present therein (col. 14, lines 62-65; also see Fig. 9, the N phases are grouped into 4 groups 940-970).

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Regard claim 21, the potential impairments include at least one form of robbed-bit signaling (RBS) (col. 5, lines 4-6).

Regarding claim 23, as explained above in the rationale applied to claim 14, N is 24.

Regarding claim 33, Eyuboglu teaches a communications device for a communications system susceptible to one or more potential impairments each periodic in an integer number of symbols transmitted across a channel, the communications device comprising: a receiver (260 in Fig. 2) for receiving a sequence of symbols transmitted across the channel, the receiver producing a sequence of amplitude estimates; and a digital impairment component to categorize N phases of the sequence of amplitude estimates according to impairments present therein, the digital impairment component including: an organize component to organize the received amplitude estimates into the N phases, wherein N is selected such that each potential impairment, if present, is periodic therein (col. 11, line 1, that is $N=24$, also see 920 in Fig. 9); and for each of the N phases, a grouping component to compare one or more sets of amplitude estimates thereof to a respective one or more sets of the amplitude estimates of other phases of the N phases to categorize the N phases into one or more groups according to similarity of impairments present therein (col. 14, lines 62-65; also see Fig. 9, the N phases are grouped into 4 groups 940-970).

Regarding claim 41, Eyuboglu teaches an apparatus comprising: a receive path coupled to receive sequences susceptible to one or more impairments periodic in N phase intervals (col. 10, lines 6-10); and means for grouping the phase intervals

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according to apparent aggregate effect of the impairments thereon without identification of individual impairments active in the particular phases (col. 10, lines 57-63; that is, the data are grouped into no RBS or FR RBS without identification whether F1 or F0 RBS is present).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eyuboglu et al. (U.S. Patent No. 5,875,229, listed in the IDS filed 11/13/2000, "Eyuboglu" hereinafter) in view of Alelyunas et al. (U.S. Patent No. 5,991,348, "Alelyunas" hereinafter).

Eyuboglu teaches the claimed invention, but does not teach that the potential impairments include digital attenuation padding. Alelyunas teaches that the potential impairments in a PCM communication system include RBS and digital attenuation padding (col. 1, lines 13-17; col. 3, lines 14-19). Since the system of Eyuboglu is also a PCM communication system (col. 2, line 2), it would have been obvious to a person of

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ordinary skill in the art at the time the invention was made to recognize that the potential impairments in the system of Eyuboglu also include digital attenuation padding.

9. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eyuboglu et al. (U.S. Patent No. 5,875,229, listed in the IDS filed 11/13/2000, "Eyuboglu" hereinafter) in view of Betts et al. (U.S. Patent No. 5,761,247, "Betts" hereinafter).

Regarding claim 39, Eyuboglu teaches a communications device that establishes communication across a channel susceptible to one or more potential impairments each periodic in an integer number of symbols transmitted across the channel, the communications device performs the steps of: receiving a sequence of amplitude estimates (260 in Fig. 2); organizing the received amplitude estimates into the N phases (col. 11, line 1, that is $N=24$, also see 920 in Fig. 9), wherein N is selected such that each potential impairment, if present, is periodic therein; and for each of the N phases, comparing a set of amplitude estimates thereof to a respective one or more sets of the amplitude estimates of other phases of the N phases to categorize the N phases into one or more groups according to similarity of impairments present therein (col. 14, lines 62-65; also see Fig. 9, the N phases are grouped into 4 groups 940-970).

Eyuboglu does not teach the communication device flows the instructions of a computer program. However, the use of software is well known in the art for its flexibility and simplicity of operation. Betts uses a computer readable medium having a program to compensate the impairment caused by RBS (claim 8). Therefore, it would

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have been obvious to a person of ordinary skill in the art at the time the invention was made to use a computer program to control the steps performed by the communication device of Eyuboglu, for the advantage of flexibility and simplicity of operation.

Regarding claim 40, wherein the instructions are encoded by or transmitted in at least one computer readable medium selected from the set of a disk, tape or other magnetic, optical, or electronic storage medium and a network, wireline, wireless or other communications medium (col. 7, line 66 through col. 8, line 6).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (571) 272-3042. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

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A handwritten signature in black ink, appearing to read "Chieh M Fan".

Chieh M Fan
Primary Examiner
Art Unit 2634

cmf
October 18, 2004